

AMENDMENTS TO THE CLAIMS

Pursuant to 37 C.F.R. § 1.121 the following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently Amended) An arrangement for integrating a mechanical structure of an antenna head of a radio phone and a speaker, the mechanical structure including a ground plane, a planar antenna having at least one antenna feed conductor, and speaker first and second audio conductors, the arrangement comprising:

a radiator component that is arranged to function both as a radio wave radiator for the planar antenna and as a sound wave radiator for the speaker; and

said antenna feed conductor and one of said audio conductors being galvanically connected to a same conductor plane in the radiator component, wherein the conductor plane is short-circuited at a certain point to the ground plane to form a PIFA type antenna.

2. (Previously Presented) An arrangement according to claim 1, wherein the planar antenna has first and second feed conductors, and said radiator component comprises a planar layer of an electret material having a static inner electric field, a first conductor plane on its top surface and a second conductor plane on its bottom surface, the first conductor plane being connected to the first feed conductor and the first audio conductor, and the second conductor plane being connected to the second antenna feed conductor and the second audio conductor, and the first and second conductor planes being in a radio transmitting situation arranged to get an identical feed through said feed conductors.

3. (Original) An arrangement according to claim 1, wherein said radiator component comprises a first and second electret layer, which layers have opposite static inner electric fields, a conductive film between the first and second electret layer, a flexible and sound-permeable first support layer above the first electret layer, a flexible and sound-permeable second support layer underneath the second electret layer, a first conductor layer on the bottom surface of the first support layer and a second conductor layer on the top surface of the second support layer, said first conductor layer being in contact with the first electret layer, and said second conductor layer being in contact with the second electret layer, the antenna feed conductor being galvanically connected to the first and second conductor layer, the first audio conductor being connected to the first and second conductor layer and the second audio conductor being connected to said conductive film.

4. (Original) An arrangement according to claim 3, further comprising a dielectric frame around the radiator component and between the radiator component and ground plane to prevent an acoustic short of the speaker and to support the radiator component.

5. (Original) An arrangement according to claim 3, further comprising a radio radiator on the top surface of said radiator component.

6. (Original) An arrangement according to claim 2, said electret layer being the EMFi type.

7. (Original) An arrangement according to claim 3, said electret layers being the EMFi type.

8. (Currently Amended) An arrangement according to claim [[1]]10, said second conductor plane of the radiator component being short-circuited at a certain point to the ground plane to form a PIFA type antenna.

9. (Currently Amended) A radio phone comprising:

 a planar antenna with a feed conductor[[,]];
 a speaker with two audio conductors[[,]]; and
 a radiator component arranged to function both as a radio wave radiator in the planar antenna and as a sound wave radiator in the speaker[[,]];
 said feed conductor and one of said audio conductors being galvanically connected to a same first conductor plane in the radiator component; and
 a second conductor plane in the radiator component being short-circuited at a certain point to a ground plane to form a PIFA type antenna.

10. (Previously Presented) An arrangement for integrating a mechanical structure of an antenna head of a radio phone and a speaker, which structure comprises a ground plane, a planar antenna having first and second feed conductors, speaker first and second audio conductors, the arrangement comprising:

 a radiator component that is arranged to function both as a radio wave radiator for the planar antenna and as a sound wave radiator for the speaker;

the radiator component including a planar layer of an electret material having a static inner electric field, a first conductor plane on its top surface and a second conductor plane on its bottom surface;

the first conductor plane being connected to the first feed conductor and the first audio conductor;

the second conductor plane being connected to the second antenna feed conductor and the second audio conductor;

the first and second conductor planes being in a radio transmitting situation arranged to get an identical feed through said feed conductors; and

said antenna feed conductor and one of said audio conductors being galvanically connected to a same conductor plane in the radiator component.

11. (New) An arrangement according to claim 10, wherein said radiator component comprises a first and second electret layer, which layers have opposite static inner electric fields, a conductive film between the first and second electret layer, a flexible and sound-permeable first support layer above the first electret layer, a flexible and sound-permeable second support layer underneath the second electret layer, a first conductor layer on the bottom surface of the first support layer and a second conductor layer on the top surface of the second support layer, said first conductor layer being in contact with the first electret layer, and said second conductor layer being in contact with the second electret layer, the antenna feed conductor being galvanically connected to the first and second conductor layer, the first audio conductor being connected to the first and second conductor layer and the second audio conductor being connected to said conductive film.

12. (New) An arrangement according to claim 11, further comprising a dielectric frame around the radiator component and between the radiator component and ground plane to prevent an acoustic short of the speaker and to support the radiator component.

13. (New) An arrangement according to claim 11, further comprising a radio radiator on the top surface of said radiator component.

14. (New) An arrangement according to claim 10, said electret layer being the EMFi type.

15. (New) An arrangement according to claim 11, said electret layers being the EMFi type.